



US008276085B2

(12) **United States Patent**
Sherwani

(10) **Patent No.:** **US 8,276,085 B2**
(45) **Date of Patent:** ***Sep. 25, 2012**

(54) **IMAGE NAVIGATION FOR TOUCHSCREEN USER INTERFACE**

(75) Inventor: **Jahanzeb Ahmed Sherwani**, Mountain View, CA (US)

(73) Assignee: **iTeleport, Inc.**, Mountain View, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 22 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/975,603**

(22) Filed: **Dec. 22, 2010**

(65) **Prior Publication Data**

US 2011/0093822 A1 Apr. 21, 2011

Related U.S. Application Data

(63) Continuation of application No. 12/362,248, filed on Jan. 29, 2009, now Pat. No. 7,870,496.

(51) **Int. Cl.**
G06F 3/00 (2006.01)

(52) **U.S. Cl.** **715/761; 715/740; 715/737; 715/718**

(58) **Field of Classification Search** **715/761, 715/740, 737, 718, 249, 863, 716; 709/223, 709/248; 382/306**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,225,984 B1 5/2001 Crawford
6,324,544 B1 11/2001 Alam et al.
6,622,018 B1 9/2003 Ereksion
6,750,803 B2 6/2004 Yates et al.

6,765,557 B1 7/2004 Segal et al.
6,954,355 B2 10/2005 Gerstner et al.
7,085,542 B2 8/2006 Dietrich et al.
7,180,502 B2 2/2007 Marvit et al.
7,321,785 B2 1/2008 Harris
7,870,496 B1 * 1/2011 Sherwani 715/761
2003/0054794 A1 3/2003 Zhang
2005/0080909 A1 4/2005 Panasyuk et al.
2006/0026521 A1 2/2006 Hotelling et al.
2006/0026536 A1 * 2/2006 Hotelling et al. 715/863
2006/0097991 A1 5/2006 Hotelling et al.
2006/0119585 A1 6/2006 Skinner

(Continued)

OTHER PUBLICATIONS

Anonymous, "Vnsea," Google Code, Retrieved from internet URL: <http://code.google.com/p/vnsea/>, retrieved Feb. 2, 2009, available Dec. 15, 2007.

(Continued)

Primary Examiner — Le H Luu

(74) *Attorney, Agent, or Firm* — Van Pelt, Yi & James LLP

(57) **ABSTRACT**

Various embodiments relate to a local computing device that includes a display and a touchscreen interface. The device is operable to establish a remote network computing session with a host computer system, transmit touch event information associated with touch events, receive graphical display information corresponding to a host image associated with the host computer system, translate the graphical display information from host coordinates to local coordinates, update the local image based on the graphical display information, the local image comprising a selected portion of the host image, and, in response to mouse movement events caused by associated touch events, change the selected portion of the host image while keeping a cursor in the center of the display, except when the center of the selected portion is within a predetermined limit of an edge of the host image, thereafter move the cursor relative to the local display.

20 Claims, 18 Drawing Sheets

